III. AMENDMENTS TO THE DRAWINGS

Formal Replacement Drawing Figures 1-4 and 7 are filed herewith. Replacement Drawing Figures 1-4 illustrate the legend "Prior Art". It is respectfully submitted that Replacement Drawing Figures 4 and 7 illustrate, by dotted lines, a time when a temperature of the portion of the case in which ice is condensed reaches the melting point of ice.

V. REMARKS

The Office Action states that Figures 1-3 should be designated by a legend such as "Prior Art". However, it appears that Figure 4 should also be designated by the legend, "Prior Art". The attached Replacement Sheets of Drawing Figures 1-4 indicate that these drawing figures are "prior art".

The Office Action objects to the drawing figures under 37 CFR 1.83 (a) because, allegedly, the drawing figures fail to show every features specified in the claims. The Examiner particularly points out the phrase, "time when a temperature of the portion of the case in which the ice is condensed reaches the melting point of the ice". The Replacement Sheets of Drawing Figures 4 and 7 obviate the objection by incorporating dotted lines in these charts. Withdrawal of the objection is respectfully requested.

Claims 1-9 and, presumptively 10-13, are rejected under 35 USC 102 (b) as being anticipated by Bartlett et al. (U.S. Patent No. 5,375,424). The rejection is respectfully traversed.

Bartlett teaches a cryopump that includes at least first and second stages in a cryopump chamber, a second stage heating element, a warm purge gas valve, a roughing valve and an electronic controller. The at least first and second stages in a cryopump chamber are cooled by a cryogenic refrigerator with an adsorbent on the second colder stage. The second stage heating element heats the second stage. The warm purge gas valve applies purge gas to the cryopump chamber. The roughing valve couples the cryopump chamber to a roughing pump. The electronic controller controls the heating element, purge gas valve and roughing valve. The controller is programmed to control a partial regeneration process while continuing operation of the cryogenic refrigerator by heating the second stage of the cryopump; cycling between application of purge gas to the cryopump and opening of a roughing valve from the cryopump until the cryopump is sufficiently empty of gases condensed and adsorbed on the second stage; maintaining the roughing pump open to reduce pressure of the

cryopump while continuing heating of the second stage; stopping heating of the second stage and continuing rough pumping of the cryopump with the roughing valve open to further reduce pressure of the cryopump; closing the roughing valve at a base pressure level; and, cyclically opening and closing the roughing valve as the cryopump cools down to maintain the pressure of the cryopump near to the base pressure level.

Claim 1, as amended, is directed to a water regeneration method for discharging ice condensed in a portion cooled by a cryogenic refrigerator installed in a case to an outside of the case. Claim 1 recites a temperature increasing step for melting the ice; a vaporizing step for vaporizing water; and a discharging step for discharging water vapor. Claim 1 further recites that the ice, the water, and the water vapor are regenerated in stages such that the ice is melted before the water and the water vapor are regenerated and, after the ice is melted, the water is regenerated before the water vapor is regenerated, and, after the water is regenerated, then the water vapor is regenerated.

It is respectfully submitted that the rejection is improper because the applied art fails to teach each and every element of claim 1 as amended. Specifically, it is respectfully submitted that the applied art fails to teach that the ice, the water, and the water vapor are regenerated in stages such that the ice is melted before the water and the water vapor are regenerated and, after the ice is melted, the water is regenerated before the water vapor is regenerated, and, after the water is regenerated, then the water vapor is regenerated. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Claim 10, as amended, is directed to a water regeneration apparatus for discharging ice condensed in a portion cooled by a cryogenic refrigerator installed in a case to an outside of the case. Claim 10 recites that the water regeneration apparatus includes temperature increasing means, vaporizing means an evacuation means. Claim 10 further recites that the temperature increasing means increases a temperature of the portion in the case in which the ice is condensed to a melting point of the ice or higher to melt the ice. Also, claim 10 recites that the vaporizing means vaporizes water generated by melting of the ice by performing rough evacuation to reduce a pressure of

the portion in which the water is accumulated within a range in which the temperature and the pressure of the portion are prevented from reaching a freezing point of the water, performing buildup determination based on discharged moisture or gas when the evacuation is stopped, and repeating the water vaporization and the buildup determination until the water vanishes away. Additionally, claim 10 recites that the evacuation means discharges water vapor by further reducing the pressure at a time when the water is vaporized. Furthermore, claim 10 recites that the ice, the water, and the water vapor are regenerated in stages such that the ice is melted before the water and the water vapor are regenerated and, after the ice is melted, the water is regenerated before the water vapor is regenerated, and, after the water is regenerated, then the water vapor is regenerated.

It is respectfully submitted that the rejection is improper because the applied art fails to teach each and every element of claim 10 as amended. Specifically, it is respectfully submitted that the applied art fails to teach that the ice, the water, and the water vapor are regenerated in stages such that the ice is melted before the water and the water vapor are regenerated and, after the ice is melted, the water is regenerated before the water vapor is regenerated, and, after the water is regenerated, then the water vapor is regenerated. As a result, it is respectfully submitted that claim 10 is allowable over the applied art.

Support for these amendments is found in the specification on page 10, lines 7-10.

Claims 2-9 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 1 is allowable as well as for the features they recite.

Claims 11-13 depend from claim 10 and include all of the features of claim 10. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 10 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

It is respectfully submitted that the pending claims are believed to be in condition for allowance over the prior art of record. Therefore, this Amendment is believed to be a complete response to the outstanding Office Action. Further, Applicants assert that there are also reasons other than those set forth above why the pending claims are patentable. Applicants hereby reserve the right to set forth further arguments and remarks supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

Date: July 3, 2008 By: _____
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Enclosure(s): Amendment Transmittal
Replacement Sheets of Drawing Figures 1-4 and 7
Annotated Sheets of Drawing Figures 1-4 and 7

DC319082.DOC

Fig. 1 PRIOR ART

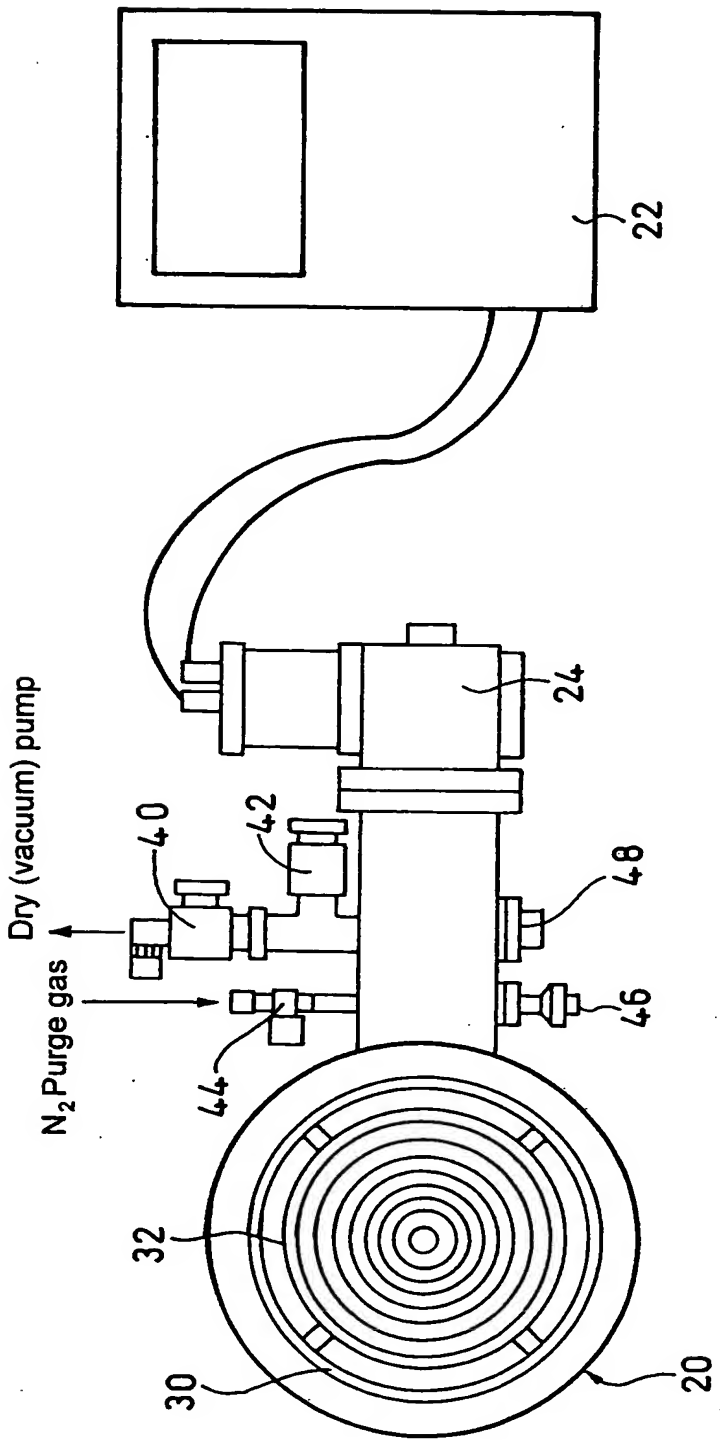


Fig. 2 PRIOR ART

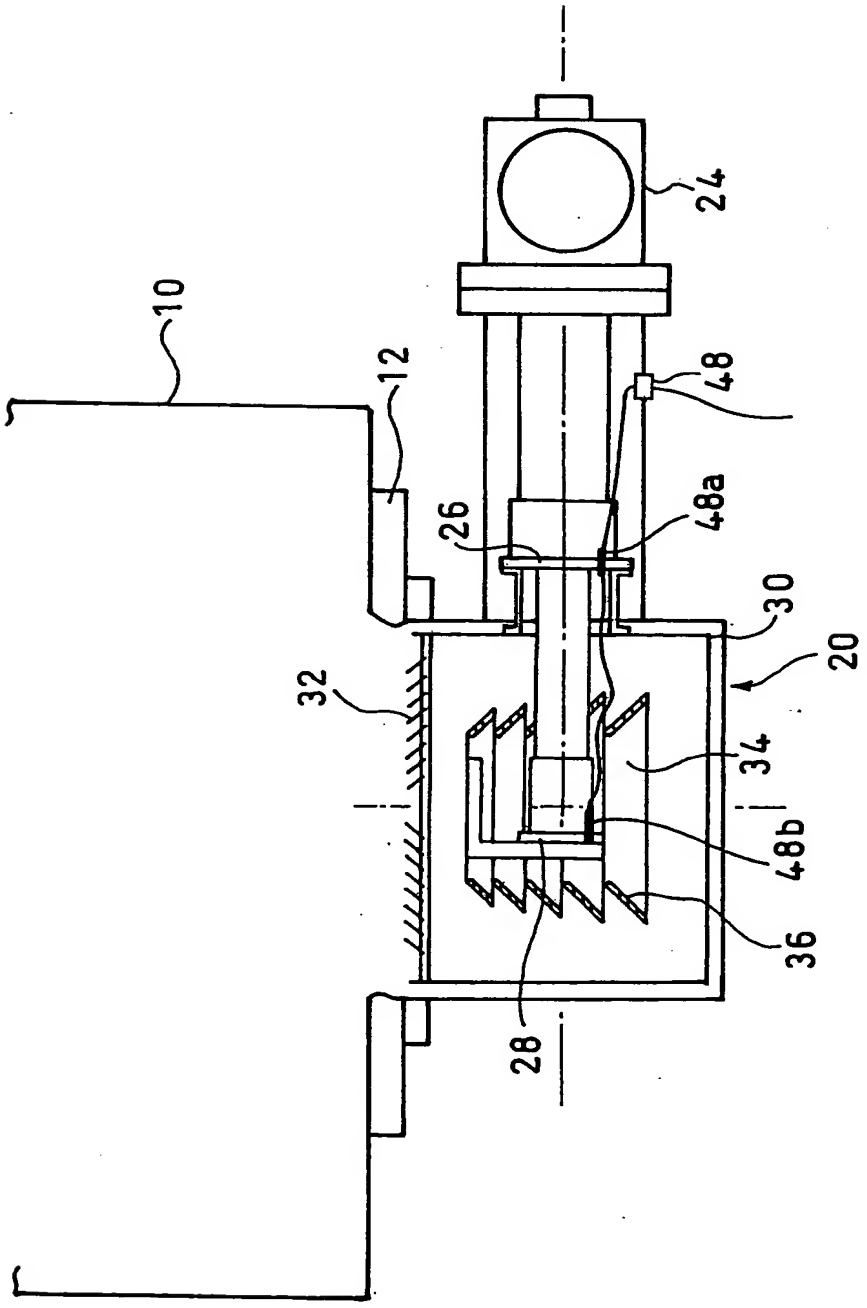


Fig. 3 PRIOR ART

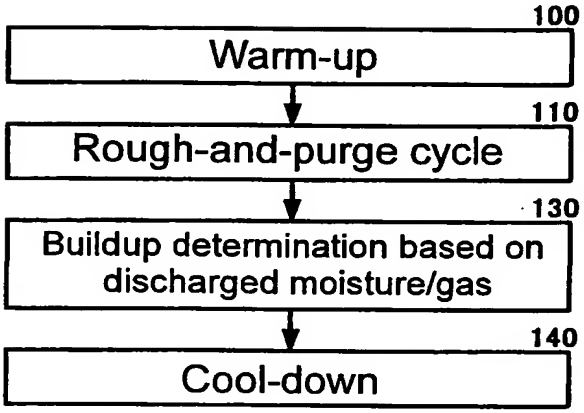


Fig. 4 PRIOR ART

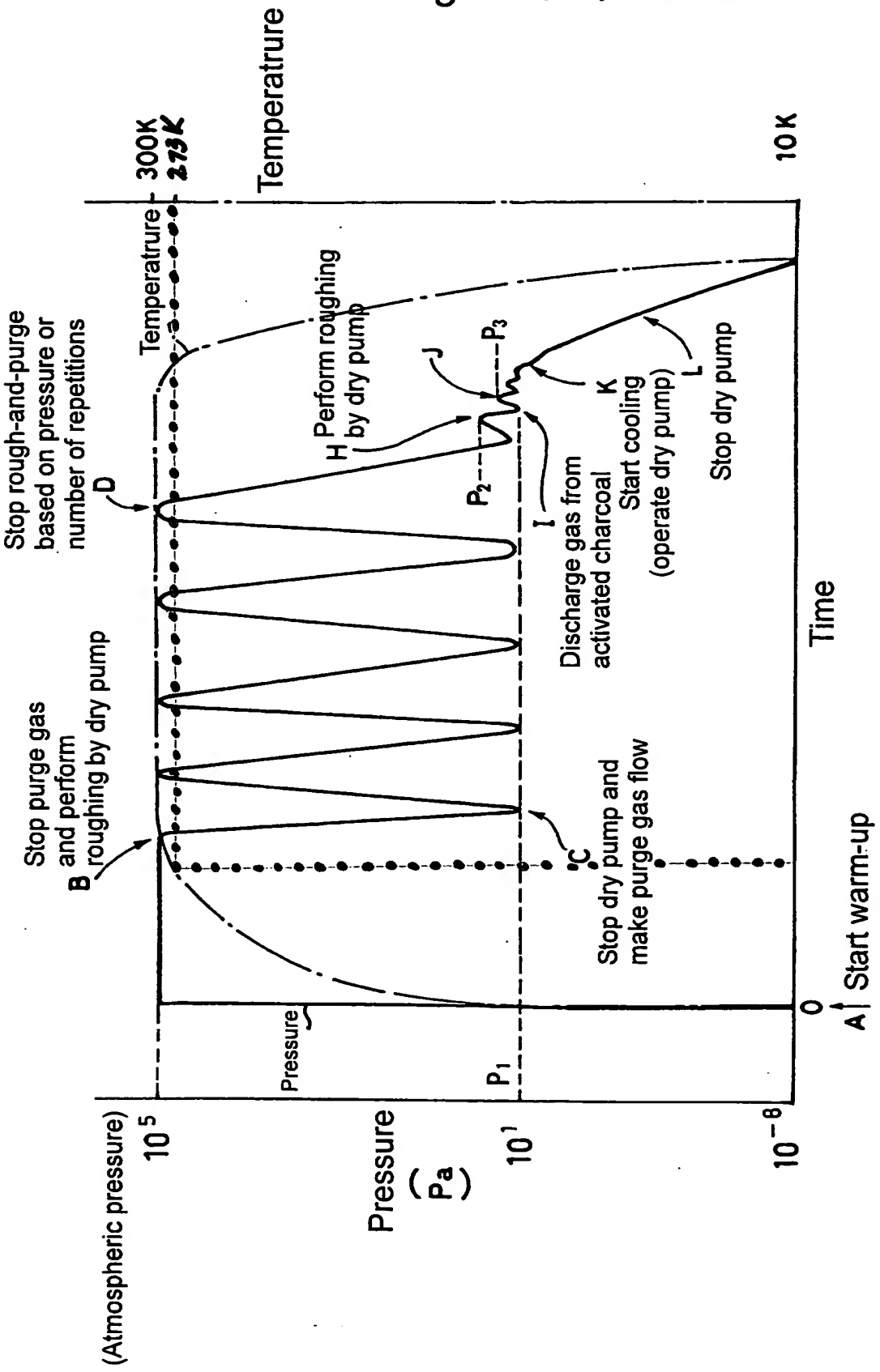
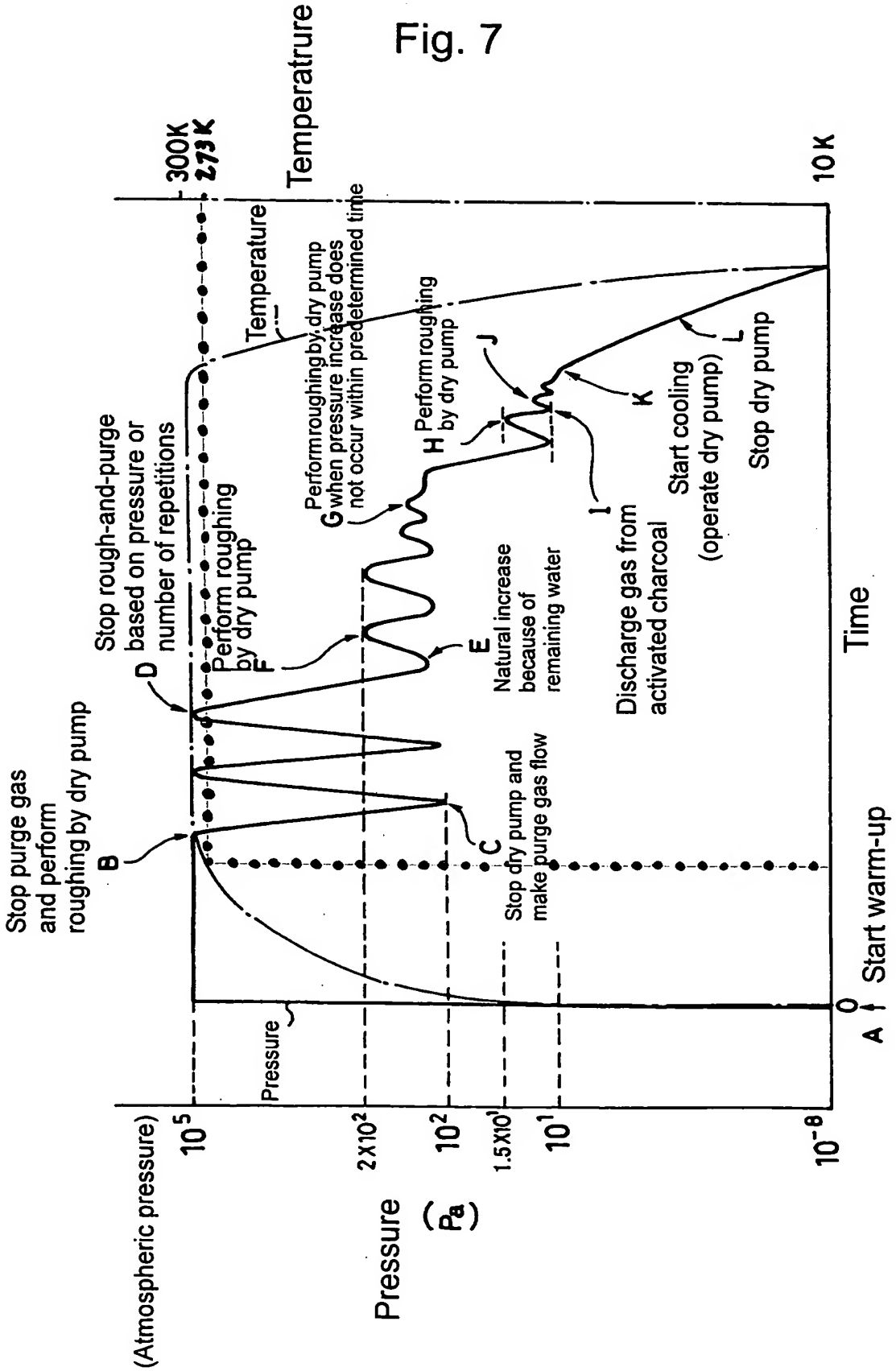


Fig. 7


Temperatrure
300K
273K
10K
Temperature
Pressure
(Atmospheric pressure)
10^5
$2X10^2$
10^2
$1.5X10^1$
10^1
10^{-8}
Pressure (Pa)
Time
0
A
Start warm-up
B
Stop purge gas and perform roughing by dry pump
C
Stop dry pump and make purge gas flow
D
Stop rough-and-purge based on pressure or number of repetitions
E
Natural increase because of remaining water
F
Perform roughing by dry pump
G
Perform roughing by dry pump when pressure increase does not occur within predetermined time
H
Perform roughing by dry pump
I
Discharge gas from activated charcoal
J
K
Start cooling (operate dry pump)
L
Stop dry pump